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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/584,248

Applicant(s)

CHRETIEN, JEAN-LOUP

Examiner

TRUNG DIEP

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/23/2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 06/23/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4 -7, 9 -17, 19 -22, and 24 are rejected under 35 U.S.C. 102

(b) as being anticipated by Yamaguchi (US 7,245,325 B2), cited by the applicant.

As to claim 1, *Yamaguchi discloses in figures 1-8, an anti-glare device (i.e., photographing device with light quantity adjustment as shown in figure 1) comprising a camera (CCD area sensor 16 shown in figure 1),*

a visualization means (*monitor display unit 22 shown in figure 1*) for reproducing a processed image and an adaptable filter (*liquid crystal filter 14 shown in figure 1*) presenting a filtering image (*see figure 1, Col. 5, lines 16-43*),

the image presenting masking regions (*i.e., image of subject A shown on the liquid display filter*) obscuring the glare regions, characterized in that it comprises a single camera (*i.e., CCD area sensor 16*) (*see figure 1, Col. 5, lines 24-27*),

the output of which is connected to an electronic circuit controlling the filter and re-evaluating, in time, the filtering image according to an image acquired by said camera (*i.e., the CCD is connected to the adjustment unit 20*) (*see figure 1, Col. 6, lines 39-40*),

the filter being placed in the focal plane of an input lens (*i.e., the liquid crystal filter 14 is placed in the focal plane between the lens 12 and the CCD 16*) (*see figure 1, Col. 5, line 50 to Col. 6 line 2*).

With regard to claim 2, Yamaguchi discloses all basic limitations as discussed in claim 1. Yamaguchi further discloses characterized in that the electronic circuit (20) controls the filter (14) for the alternate display of an acquisition image and a filtration image calculated according to the image transmitted by the camera during the previous acquisition phase (*i.e., the subject A is read under the conditions of the previously set light transmittance of the*

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liquid crystal filter 14 and the time shooting of the CCD sensor 16, and the image data of the pre-read image subjected to the processing in the processing unit 18 is read out from the RAM 26, and on the basis of the pre-read image of the subject A, the adjustment of the light transmittance and the adjustment quantity are set) (see figure 1, Col. 6, lines 41-63).

With regard to claim 4, Yamaguchi discloses all basic limitations as discussed in claim 2. Yamaguchi further discloses characterized in that the electronic circuit transmits to the visualization means, during the acquisition phases, a pre-recorded image corresponding to the image transmitted by the camera before the acquisition phase (*i.e., the image of the subject A is read under the conditions of the previously set light transmittance "t" of the liquid crystal filter 14, shooting time of the CCD 16, and the image data of the pre-read image subjected to the processing in the processing unit 18 is read out from the RAM 26, and on the basis of the pre-read image of the subject A, the adjustment area of the light transmittance of the liquid display filter and the adjustment quantity are set, and control signal for controlling the liquid crystal filter 14 is generated) (Col. 6, lines 54-63).*

With regard to claim 5, Yamaguchi discloses all basic limitations as discussed in claim 2. Yamaguchi further discloses characterized in that the electronic circuit controls the filter during the acquisition phase, so that it presents a uniform transmission rate over the entire surface area, with a transmission

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value corresponding to a value V_t less than 1 (*i.e., the entire surface of liquid crystal filter 14 is uniformly set to transmission of 50% which is less than 100%*) (Col. 16, lines 55-61).

With regard to claim 6, Yamaguchi discloses all basic limitations as discussed in claim 5. Yamaguchi further discloses characterized in that the value V_t is determined according to the brightness of at least one previous image (*i.e., the image of the subject A is read under the conditions of the previously set light transmittance "t" of the liquid crystal filter 14, shooting time of the CCD 16, and the image data of the pre-read image subjected to the processing in the signal processing unit 18. Based on these data, the adjustment area of the light transmittance of the liquid display filter and the adjustment quantity are set*) (Col. 6, lines 54-63).

With regard to claim 7, Yamaguchi discloses all basic limitations as discussed in claim 1. Yamaguchi further discloses characterized in that the electronic circuit permanently controls the filter for the display of a filtering image (*the adjustment unit 20 includes a filter adjustment section and a CCD control section for controlling the process i.e., the image of the subjected A is read under the conditions of the previously set light transmittance of the liquid crystal filter and an adjustment thereof*) (Col. 6, lines 39-53), the control law being dependent: on an image filtered by a filtering image calculated previously and seen by the

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camera, and on the filtering image calculated previously (*i.e.*, the subject A is read under the conditions of the previously set light transmittance of the liquid crystal filter 14 and the time shooting of the CCD sensor 16, and the image data of the pre-read image subjected to the processing in the processing unit 18 is read out from the RAM 26, and on the basis of the pre-read image of the subject A, the adjustment area of the light transmittance of the liquid display filter and the adjustment quantity are set, and control signal for controlling the liquid display filter 14 is generated) (Col. 6, lines 54-63).

With regard to claim 9, Yamaguchi discloses all basic limitations as discussed in claim 1. Yamaguchi further discloses in that the filter is a liquid crystal filter (*liquid crystal filter 14 shown in figure 1*) (Col. 5, lines 16-19).

With regard to claim 10, Yamaguchi discloses all basic limitations as discussed in claim 9. Yamaguchi further discloses characterized in that the filter is a reflection filter (*i.e.*, *liquid crystal cells of the liquid crystal filter is clearly reflected on the image of the subject A*) (*see figure 1, Col. 3, lines 19-24 and Col. 5, lines 60 - 66*).

With regard to claim 11, Yamaguchi discloses all basic limitations as discussed in claim 10. Yamaguchi further discloses characterized in that the filter

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is a transmission filter (*i.e.*, *incident light quantity can be adjusted by controlling the light transmittance of the liquid crystal cells of the liquid crystal filter*) (see figure 1, Col. 3, lines 13-18 and Col. 5, lines 50 – 56).

With regard to claim 12, Yamaguchi discloses all basic limitations as discussed in claim 1. Yamaguchi further discloses characterized in that the filter is a steerable micromirror filter (*i.e.*, *the liquid crystal filter 14 is used as the light quantity adjustment for partially changing the light intensity of the incident light carrying the optical image of the subject by controlling the light transmittance..., and a distribution image of light transmittance of the respective liquid crystal cells of the liquid crystal filter is clearly reflected on the image of the subject A. Thus, the liquid crystal filter is made of a plurality of micromirror or cells for reflecting the image of the subject and is steerable and/or controllable by the CPU*) (see figure 1, Col. 5, lines 50-66).

With regard to claim 13, Yamaguchi discloses all basic limitations as discussed in claim 1. Yamaguchi further discloses characterized in that the masking regions present a maximum transmission in a waveband (*i.e.*, *photo subject which is displayed on the liquid crystal filter represents the regions having highest light transmittance or is considered as the masking regions*) (see figure 1, Col. 5, lines 16-42).

With regard to claim 14, Yamaguchi discloses all basic limitations as discussed in claim 13. Yamaguchi further discloses the anti-glare device characterized in that the waveband corresponds to red (*i.e., three liquid crystal filters, including the Red filter 14R, can be used, and in this scenario, the quantity of light needs to be adjusted for each of the tree colors*) (see figure 5, Col. 13, lines 26-40).

As to claim 15, Yamaguchi discloses in figures 1-8, a method of processing an image acquired by a camera (*i.e., photographing device with light quantity adjustment as shown in figure 1*) comprising:

a filtration step by a filter controlled by a masking image re-evaluated in time (*i.e., liquid crystal filter (LCF) 14 connected to the adjustment unit 20 for controlling the operation of the LCF*) (see figure 1, Col. 6, lines 39-63),

a step during which the image is acquired by the camera after insertion of the filter controlled by the previously re-evaluated masking image (*i.e., a CCD 16 for photoelectrically reading an image of the subject A which was adjusted in light quantity made by the LCF, and the operations of the LCF is controlled by the adjustment unit 20*) (see figure 1, Col. 5, lines 16-43),

the filter being placed in the focal plane of an input lens and the re-evaluation being dependent on an image previously acquired by the

camera (i.e., the liquid crystal filter 14 is placed in the focal plane between the lens and the CCD 16) (see figure 1, Col. 5, line 50 to Col. 6 line 2).

With regard to claim 16, Yamaguchi discloses all basic limitations as discussed in claim 15. Yamaguchi further discloses characterized in that it comprises, alternately, a step for acquiring an image and analyzing the image to prepare a masking image, and the filtration step, the steps for acquiring images to control the filter and for reproducing the corrected image being performed by the same camera (i.e., , CCD 16 for photo-electrically reading an image of the subject A which was adjusted in light quantity made by the LCF, and the operations of the LCF is controlled by the adjustment unit 20. Furthermore, the adjustment unit 20 includes a filter adjustment section and a CCD control section for controlling the process i.e., the image of the subjected A is read under the conditions of the previously set light transmittance of the liquid crystal filter and an adjustment thereof) (see figure 1, Col. 5, lines 16-43 and Col. 6, lines 39-63).

With regard to claim 17, Yamaguchi discloses all basic limitations as discussed in claim 16. Yamaguchi further discloses characterized in that the images reproduced during the step for acquiring the masking image correspond to a previous corrected image (i.e., the image of the subject A is read under the conditions of the previously set light transmittance "t" of the liquid crystal filter 14, shooting time of the CCD 16, and the image data of the pre-read image

subjected to the processing in the signal processing unit 18. Based on these data, the adjustment area of the light transmittance of the liquid display filter and the adjustment quantity are set) (Col. 6, lines 54-63).

With regard to claim 19, Yamaguchi discloses all basic limitations as discussed in claim 15. Yamaguchi further discloses characterized in that the re-evaluation comprises a step for calculating the new masking image according to a previously evaluated masking image and an image previously acquired by the camera and filtered by the previously evaluated masking image (*i.e., the image of the subject A is read under the conditions of the previously set light transmittance "t" of the liquid crystal filter 14, shooting time of the CCD 16, and the image data of the pre-read image subjected to the processing in the signal processing unit 18. Based on these data, the adjustment area of the light transmittance of the liquid display filter and the adjustment quantity are set, and a control signal for controlling the liquid crystal filter is generated*) (Col. 6, lines 54-63).

With regard to claim 20, Yamaguchi discloses all basic limitations as discussed in claim 19. Yamaguchi further discloses characterized in that the evaluation comprises a step consisting, for each pixel or group of pixels of the masking image: in modifying the transmission rate to a more passing state if the luminance of the corresponding pixel or group of pixels of the filtered image previously acquired is less than a threshold S2, in modifying the transmission

rate to a less passing state if the luminance of the corresponding pixel or group of pixels of the filtered image previously acquired is greater than a threshold S1 greater than the threshold S2, in retaining the transmission rate of the previously evaluated masking image if the luminance of the corresponding pixel or group of pixels of the filtered image previously acquired is between the thresholds S1 and S2 (i.e., disclosed examples of light quantity adjustment made as shown in figures 3A, 3C, and 3E where the adjustment area of the light transmittance of the liquid crystal filter 14 may be automatically or manually set by the photographer in accordance to the bright and dark portions of the pre-read image, this portion sets the adjustment area of the light transmittance where the light transmittance of the liquid crystal filter is changed, and its adjustment value (Col. 8, lines 50-60). The setting of the light transmittance is carried out even in the case where the image of the bright portion of the subject A becomes washed-out and the Y component exceeding the upper limit value of the dynamic range is clipped at the upper limit value and lower limit value as shown in figures 3A to 3F) (see figures 3A-3F, Col. 8, line 28 to Col.12, line 45).

Regarding claims 21, 22 and 24, these claims are met by the analyses of claims 1, 2 and 4, respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US 7,245,325 B2), cited by the applicant, in view of Anderson (US 2000/0024521 A1).

With regard to claim 3, Yamaguchi discloses all basic limitations as discussed in claim 2, except for the circuit disables the transmission of the video signal from the camera to the visualization means during the acquisition phases.

However, Anderson teaches that the previously captured image is frozen or a flicker is shown on the display when a new image is captured, then the live view mode is returned back to normal after the new image was processed. This indicates that no video is transmitted to the display, only a frozen image or a flicker is shown.

Therefore, it would have been obvious to one having ordinary skill in the art to modify the Yamaguchi device by incorporating the method as taught by Anderson so as to visually inform the user in a user-friendly fashion that the new image was captured but being processed during the waiting time.

With regard to claim 23, Yamaguchi discloses all basic limitations as discussed in claim 22, except for the circuit also disables the link between the image sensor (*CCD 16*) and the output of the exposure device (*i.e., monitor display unit 22 functions as the exposure device*) during the phases for acquiring the filtration image.

However, Anderson teaches that the previously captured image is frozen or a flicker is shown on the display when a new image is captured, then the live view mode is returned back to normal after the new image was processed. This indicates that no video is transmitted to the display, only a frozen image or a flicker is shown.

Therefore, it would have been obvious to one having ordinary skill in the art to modify the Yamaguchi device by incorporating the method as taught by Anderson so as to visually inform the user in a user-friendly fashion that the new image was captured but being processed during the waiting time.

7. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US 7,245,325 B2), cited by the applicant, in view of Takahashi (US 5,483,280).

With regard to claim 8, Yamaguchi discloses all basic limitations as discussed in claim 15, except for the control law of the filter comprises at least one hysteresis cycle with two threshold levels.

However, *as taught by Takahashi and disclosed in figures 1-4, Col. 6, line 58 to Col. 10, line 24*, wherein the light amount control apparatus in which the optical diffraction phenomenon can be prevented when a cameraman takes a picture of a bright scene. A hysteresis value is set to be more than the change of iris position corresponding to the density of the ND filter, the oscillation of the output from the CCD element 3 can be prevented. Because, when the ND filter is attached to or detached from the video camera by the position of the iris 2, if there is not provided the hysteresis more than the changed amount of the iris position corresponding to the density of the ND filter then the output of the CCD element 3 is oscillated. Thus, one hysteresis cycle is considered as one completed operation as illustrated in the flow chart of figure 4, and the two threshold levels such as whether position data (Si) is larger or smaller than the reference position data (Rd) and whether the absolute value is smaller or larger than the hysteresis value.

Therefore, it would have been obvious at the time the invention was made to one having ordinary skill in the art to modify the Yamaguchi by incorporating the method as taught by Takahashi, so as to have the images taken satisfactorily.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US 7,245,325 B2), cited by the applicant.

With regard to claim 18, Yamaguchi discloses all basic limitations as discussed in claim 15; except for the step acquiring a filtration image is performed in a time less than the retinal persistence time.

It would have been obvious at the time the invention was made to one having ordinary skill in the art that the step for acquiring a filtration image is performed in a time less than the retinal persistence time since the acquiring step which is controlled by the control circuit/computer is much faster than the response and/or reaction noticed by the human's eyes. Doing so, it would have accurately obtained the image data with much better quality and at any environment.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Shibuya et al. (US 5,986,705) discloses an exposure control system controlling a solid state image sensing device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRUNG DIEP whose telephone number is (571)270-5088. The examiner can normally be reached on Mon.,- Thur., 8:00 am,-5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Trung Diep/
Examiner, Art Unit 2622

/NHAN T. TRAN/
Primary Examiner, Art Unit 2622